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saved answer sets no longer valid
NEWS 14 Jul 29 Enhanced polymer searching in REGISTRY
NEWS 15 Jul 30 NETFIRST to be removed from STN
NEWS 16 Aug 08 CANCERLIT reload
NEWS 17 Aug 08 PHARMAMarketLetter(PHARMAML) - new on STN
NEWS 18 Aug 08 NTIS has been reloaded and enhanced
NEWS 19 Aug 19 Aquatic Toxicity Information Retrieval (AQUIRE)
now available on STN
NEWS 20 Aug 19 IFIPAT, IFICDB, and IFIUDB have been reloaded
NEWS 21 Aug 19 The MEDLINE file segment of TOXCENTER has been reloaded
NEWS 22 Aug 26 Sequence searching in REGISTRY enhanced
NEWS 23 Sep 03 JAPIO has been reloaded and enhanced
NEWS 24 Sep 16 Experimental properties added to the REGISTRY file
NEWS 25 Sep 16 Indexing added to some pre-1967 records in CA/CAPLUS
NEWS 26 Sep 16 CA Section Thesaurus available in CAPLUS and CA
NEWS 27 Oct 01 CASREACT Enriched with Reactions from 1907 to 1985
NEWS 28 Oct 21 EVENTLINE has been reloaded
NEWS 29 Oct 24 BEILSTEIN adds new search fields
NEWS 30 Oct 24 Nutraceuticals International (NUTRACEUT) now available on STN
NEWS 31 Oct 25 MEDLINE SDI run of October 8, 2002
NEWS 32 Nov 18 DKILIT has been renamed APOLLIT
NEWS 33 Nov 25 More calculated properties added to REGISTRY
NEWS 34 Dec 02 TIBKAT will be removed from STN
NEWS 35 Dec 04 CSA files on STN

NEWS EXPRESS October 14 CURRENT WINDOWS VERSION IS V6.01,
CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP),
AND CURRENT DISCOVER FILE IS DATED 01 OCTOBER 2002

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=> s tocopherol(w)cyclase
L1 19 TOCOPHEROL(W) CYCLASE

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L2 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2002 ACS
TI Protein and cDNA sequences of *Anabaena variabilis* **tocopherol cyclase** and uses thereof

L2 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2002 ACS
TI Transgenic plants carrying expression constructs for seed-specific biosynthesis of sterols and tocopherols

L2 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2002 ACS
TI cDNAs encoding prenyltransferase and **tocopherol cyclase** and their use in improving tocopherol synthesis in transgenic plants

L2 ANSWER 4 OF 12 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC. DUPLICATE
1
TI Isolation of an *Arabidopsis* mutant lacking vitamin E and identification of a cyclase essential for all tocopherol biosynthesis.

L2 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2002 ACS
TI Nucleic acid sequences encoding plant and *Synechocystis* proteins involved in tocopherol synthesis

L2 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2002 ACS
 TI Design and synthesis of a photoaffinity label for the enzyme
tocopherol cyclase

L2 ANSWER 7 OF 12 AGRICOLA DUPLICATE 2
 TI Tocopherol synthesis from homogentisate in Capsicum anuum L. (yellow
 pepper) chromoplast membranes: evidence for **tocopherol**
cyclase.

L2 ANSWER 8 OF 12 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.DUPLICATE 3
 TI The substrate specificity of **tocopherol cyclase**.

L2 ANSWER 9 OF 12 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 TI **Tocopherol cyclase** isolated from Chlorella
 protothecoides, Dunaliella salina and wheat leaves.

L2 ANSWER 10 OF 12 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.DUPLICATE 4
 TI The reaction mechanism of chromanol-ring formation catalyzed by
tocopherol cyclase from Anabaena variabilis Kuetzing
 (Cyanobacteria).

L2 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2002 ACS
 TI **Tocopherol cyclase**, and its manufacture with plant or
 algae

L2 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2002 ACS
 TI Identification of the **tocopherol cyclase** in the
 blue-green algae Anabaena variabilis Kuetzing (cyanobacteria)

=> d 12 1-12 ibib ab

L2 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 2002:615866 CAPLUS
 DOCUMENT NUMBER: 137:164758
 TITLE: Protein and cDNA sequences of Anabaena variabilis
tocopherol cyclase and uses thereof
 INVENTOR(S): Chougnnet, Antoinette; Friedlein, Arno Martin; Woggon,
 Wolf-Dietrich
 PATENT ASSIGNEE(S): Roche Vitamins A.-G., Switz.
 SOURCE: PCT Int. Appl., 61 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002063016	A1	20020815	WO 2002-EP973	20020130
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

PRIORITY APPLN. INFO.: EP 2001-102397 A 20010202
 AB The invention provides the protein and cDNA sequences of Anabaena
 variabilis **tocopherol cyclase**, a crit. enzyme in the
 biosynthesis of vitamin E. The invention can be used for the biotechnol.
 prodn. of vitamin E.

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2002:594997 CAPLUS

DOCUMENT NUMBER: 137:152492

TITLE: Transgenic plants carrying expression constructs for seed-specific biosynthesis of sterols and tocopherols

INVENTOR(S): Karunanandaa, Balasulojini; Post-Beittenmiller, Martha; Venkatramesh, Mylavarapu; Kishore, Ganesh M.; Thorne, Gregory M.; Ledeaux, John

PATENT ASSIGNEE(S): Monsanto Technology L.L.C., USA

SOURCE: PCT Int. Appl., 271 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002061072	A2	20020808	WO 2002-US255	20020104
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.:			US 2001-260114P	P 20010105
			US 2001-885723	A 20010620

AB Expression constructs for 3-hydroxy-3-methylglutaryl-CoA reductase and at least one other enzyme of sterol biosynthesis are described for use in the engineering of patterns of sterol biosynthesis. Also disclosed are methods for using such constructs to alter sterol prodn. and content in cells, plants, seeds and storage organs of plants. Also provided are oils and compns. contg. altered sterol levels produced by use of the disclosed constructs. Novel nucleotide sequences useful in the alteration of sterol prodn. are also provided. Also provided are cells, plants, seeds and storage organs of plants comprising sequences encoding 3-hydroxy-3-methylglutaryl-CoA reductase, at least one other sterol synthesis pathway enzyme and at least one tocopherol synthesis enzyme.

L2 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2002:315078 CAPLUS

DOCUMENT NUMBER: 136:320416

TITLE: cDNAs encoding prenyltransferase and **tocopherol cyclase** and their use in improving tocopherol synthesis in transgenic plants

INVENTOR(S): Lassner, Michael W.; Savidge, Beth; Weiss, James D.; Mitsky, Timothy A.; Post-Beittenmiller, Martha Ann; Valentin, Henry E.

PATENT ASSIGNEE(S): Monsanto Technology LLC, USA

SOURCE: PCT Int. Appl., 148 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2002033060 A2 20020425 WO 2001-US42673 20011012
 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
 CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
 GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
 RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ,
 VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 AU 2002013478 A5 20020429 AU 2002-13478 20011012
 PRIORITY APPLN. INFO.: US 2000-688071 A 20001014
 WO 2001-US42673 W 20011012
 AB Nucleic acid sequences and methods are provided for producing plants and
 seeds having altered tocopherol content and compns. In particular, the
 invention provides nucleic acid and polypeptide sequences of
 prenyltransferase and **tocopherol cyclase** of
 Arabidopsis. The methods find particular use in increasing the tocopherol
 and tocotrienol levels by increasing the biosynthetic flux in plants, and
 in providing desirable tocopherol compns. in a host plant cell. A natural
 tocopherol-rich and deodorized oil is provided that is produced by distg.
 a crude soybean oil under low pressure and high temp., wherein the refined
 oil (degummed and bleached) has a reduced content of free fatty acids and
 a higher amt. of tocopherol. Claimed sequences in SEQIDs 95-110 were not
 present at the time of publication.
 L2 ANSWER 4 OF 12 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE
 1
 ACCESSION NUMBER: 2002:570733 BIOSIS
 DOCUMENT NUMBER: PREV200200570733
 TITLE: Isolation of an Arabidopsis mutant lacking vitamin E and
 identification of a cyclase essential for all tocopherol
 biosynthesis.
 AUTHOR(S): Porfirova, Svetlana; Bergmueller, Eveline; Tropf, Susanne;
 Lemke, Rainer; Doermann, Peter (1)
 CORPORATE SOURCE: (1) Department of Lothar Willmitzer, Max Planck Institute
 of Molecular Plant Physiology, Am Muehlenberg 1, 14476,
 Golm: doermann@mpimp-golm.mpg.de Germany
 SOURCE: Proceedings of the National Academy of Sciences of the
 United States of America, (September 17, 2002) Vol. 99, No.
 19, pp. 12495-12500. <http://www.pnas.org>. print.
 ISSN: 0027-8424.
 DOCUMENT TYPE: Article
 LANGUAGE: English
 AB Tocopherol (vitamin E) is a plant chloroplast lipid presumed to be
 involved in the response to oxidative stress. A tocopherol-deficient
 mutant (vte1) was isolated from Arabidopsis thaliana by using a TLC-based
 screening approach. Mutant plants lacked all four tocopherol forms and
 were deficient in **tocopherol cyclase** activity. Genetic
 mapping of vte1 and a genomics-based approach led to the identification of
 the ORF At4g32770 as a candidate gene for **tocopherol**
cyclase. In vte1, At4g32770 contains a splicing site mutation and
 the corresponding mRNA expression is reduced. Expression of VTE1 in
 Escherichia coli resulted in the production of a protein with high
tocopherol cyclase and tocotrienol cyclase activity. The
 VTE1 sequence shows no similarities to genes with known function, but is
 similar to that of SXD1, a gene that was recently isolated based on the
 availability of the sucrose export defective1 maize mutant (sxd1). Growth
 of the vte1 mutant, chlorophyll content, and photosynthetic quantum yield
 were similar to wild type under optimal growth conditions. Therefore,
 absence of tocopherol has no large impact on photosynthesis or plant
 viability, suggesting that other antioxidants can compensate for the loss
 of tocopherol. During photo-oxidative stress, chlorophyll content and

photosynthetic quantum yield were slightly reduced in vtet as compared with wild type indicating a potential role for tocopherol in maintaining an optimal photosynthesis rate under high-light stress.

L2 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:781105 CAPLUS

DOCUMENT NUMBER: 135:340226

TITLE: Nucleic acid sequences encoding plant and Synechocystis proteins involved in tocopherol synthesis

INVENTOR(S): Subramaniam, Sai S.; Slater, Steven C.; Karberg, Katherine; Chen, Ridong; Valentin, Henry E.; Wong, Yun-Hua Huang

PATENT ASSIGNEE(S): Monsanto Technology LLP, USA

SOURCE: PCT Int. Appl., 166 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001079472	A2	20011025	WO 2001-US12334	20010413
WO 2001079472	A3	20020606		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2000-549848 A 20000414

US 2000-688069 A 20001014

AB Nucleic acid sequences and methods are provided for producing plants and seeds having altered tocopherol content and compns. A prenyltransferase from *Porphyra purpurea* was used as a query to identify identify straight-chain class prenyltransferases in public and proprietary databases, particularly from *Arabidopsis thaliana* and *Synechocystis*. The *Escherichia coli* *ubiA* enzyme involved in ubiquinone synthesis was used as a starting sequence to generate an arom. prenyltransferase profile. In particular, **tocopherol cyclase** enzymes are identified which form tocopherol from 2,3-dimethyl-5-phytylplastoquinol or form tocotrienols from 2,3-dimethyl-5-geranylgeranylplastoquinol. The methods find particular use in increasing the tocopherol levels in plants, and in providing desirable tocopherol compns. in a host plant cell.

L2 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:54890 CAPLUS

DOCUMENT NUMBER: 134:262716

TITLE: Design and synthesis of a photoaffinity label for the enzyme **tocopherol cyclase**

AUTHOR(S): Woggon, Wolf-D.; Fogliato, Giovanni; Derungs, Giuseppe

CORPORATE SOURCE: Institut fA Organische Chemie, Universitat Basel, Basel, CH-4056, Switz.

SOURCE: Proceedings of ECSOC-1: The First International Electronic Conference on Synthetic Organic Chemistry; [and] Proceedings of ECSOC-2: The Second International Electronic Conference on Synthetic Organic Chemistry, Sept. 1-30, 1997, 1998 (1999), Meeting Date 1997-1998, 205-208. Editor(s): Lin, Shu-Kun; Pombo-Villar, Esteban. Molecular Diversity Preservation

International: Basel, Switz.
CODEN: 69ASBO
DOCUMENT TYPE: Conference; (computer optical disk)
LANGUAGE: English
OTHER SOURCE(S): CASREACT 134:262716
AB A mechanism based, photoaffinity labeled inhibitor of the enzyme
tocopherol cyclase was synthesized.
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 7 OF 12 AGRICOLA DUPLICATE 2
ACCESSION NUMBER: 1999:51339 AGRICOLA
DOCUMENT NUMBER: IND21994415
TITLE: Tocopherol synthesis from homogenizate in Capsicum
anuum L. (yellow pepper) chromoplast membranes:
evidence for **tocopherol cyclase**.
AUTHOR(S): Arango, Y.; Heise, K.P.
CORPORATE SOURCE: Universitat Gottingen, Gottingen, Germany.
AVAILABILITY: DNAL (QP501.B64)
SOURCE: The Biochemical journal, Dec 15, 1998. Vol. 336, No.
pt.3. p. 531-533
Publisher: London, U.K. : Portland Press Ltd.
CODEN: BIJOAK; ISSN: 0264-6021
NOTE: Includes references
PUB. COUNTRY: England; United Kingdom
DOCUMENT TYPE: Article
FILE SEGMENT: Non-U.S. Imprint other than FAO
LANGUAGE: English

L2 ANSWER 8 OF 12 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.DUPLICATE 3
ACCESSION NUMBER: 97271800 EMBASE
DOCUMENT NUMBER: 1997271800
TITLE: The substrate specificity of **tocopherol**
cyclase.
AUTHOR: Stocker A.; Fretz H.; Frick H.; Ruttimann A.; Woggon W.-D.
CORPORATE SOURCE: A. Stocker, Organisch-Chemisches Institut, Universitat
Zurich, Winterthurerstr. 190, CH-8057 Zurich, Switzerland
SOURCE: Bioorganic and Medicinal Chemistry, (1996) 4/7 (1129-1134).
ISSN: 0968-0896 CODEN: BMECEP
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 004 Microbiology
LANGUAGE: English
SUMMARY LANGUAGE: English
AB The substrate specificity of the enzyme **tocopherol**
cyclase from the blue-green algae *Anabaena variabilis*
(Cyanobacteria) was investigated with 11 substrate analogues revealing the
significance of three major recognition sites: (i) the OH group at C(1) of
the hydroquinone, (ii) the (E) configuration of the double bond, and (iii)
the length of the lipophilic side chain. Experiments with two affinity
matrices suggest that substrates approach the enzyme's active site with
the hydrophobic tail.

L2 ANSWER 9 OF 12 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2002:20774 BIOSIS
DOCUMENT NUMBER: PREV200200020774
TITLE: **Tocopherol cyclase** isolated from
Chlorella protothecoides, *Dunaliella salina* and wheat
leaves.
AUTHOR(S): Gruninger, F.; Hochuli, E.; Matzinger, P. K.
CORPORATE SOURCE: Arlesheim Switzerland
ASSIGNEE: HOFFMANN-LA ROCHE INC.
PATENT INFORMATION: US 5432069 July 11, 1995
SOURCE: Official Gazette of the United States Patent and Trademark

DOCUMENT TYPE: Patent
LANGUAGE: English

L2 ANSWER 10 OF 12 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V. DUPLICATE 4
ACCESSION NUMBER: 94339752 EMBASE

DOCUMENT NUMBER: 1994339752
TITLE: The reaction mechanism of chromanol-ring formation
catalyzed by **tocopherol cyclase** from

AUTHOR: Anabaena variabilis Kutzing (Cyanobacteria).
Stocker A.; Netscher T.; Ruttimann A.; Muller R.K.;
Schneider H.; Todaro L.J.; Derungs G.; Woggon W.-D.

CORPORATE SOURCE: Organisch-chemisches Institut, Universitat Zurich,
Winterthurerstrasse 190, CH-8057 Zurich, Switzerland

SOURCE: Helvetica Chimica Acta, (1994) 77/7 (1721-1737).
ISSN: 0018-019X CODEN: HCACAV

COUNTRY: Switzerland

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 023 Nuclear Medicine
029 Clinical Biochemistry
037 Drug Literature Index

LANGUAGE: English

SUMMARY LANGUAGE: English

AB Incubation of the synthetic 180-labelled phytyl-hydroquinone (04-180)-2
with the **tocopherol cyclase** from Anabaena variabilis
Kutzing (Cyanobacteria) in D2O furnished the doubly labelled
.gamma.-tocopherol, (2R,3S,4'R,8'R)-(1-180,3-2H)-1. The chirality at C(3)
was determined by two independent routes providing interlocking evidence
that the enzyme-catalyzed ring closure proceeds by si-protonation of the
double bond of 2 and concomitant re-attack of the phenolic O-atom.

L2 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1993:250687 CAPLUS

DOCUMENT NUMBER: 118:250687

TITLE: **Tocopherol cyclase**, and its
manufacture with plant or algae
INVENTOR(S): Grueninger, Fiona; Hochuli, Erich; Matzinger, Peter
Karl

PATENT ASSIGNEE(S): Hoffmann-La Roche, F., AG, Switz.

SOURCE: Eur. Pat. Appl., 22 pp.
CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 531639	A2	19930317	EP 1992-110874	19920626
EP 531639	A3	19940427		
EP 531639	B1	19990901		
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL				
AT 184048	E	19990915	AT 1992-110874	19920626
JP 05192143	A2	19930803	JP 1992-212416	19920717
US 5432069	A	19950711	US 1992-916235	19920717
PRIORITY APPLN. INFO.:			EP 1991-112006	19910718
			EP 1992-110874	19920626

AB The **tocopherol cyclase** (I), useful for
enantioselective prepn. of R',R',R'-tocopherol from phytyl benzoquinol
derivs., is manufd. by culturing the plant or algae cells, and chromatog.
isolation from the cells. Chromatog. isolation of I having a mol. wt. of
48 or 50 kDa from Chorella protothecoides was shown.

L2 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1993:577284 CAPLUS

DOCUMENT NUMBER: 119:177284

TITLE: Identification of the **tocopherol cyclase** in the blue-green algae *Anabaena variabilis* Kuetzing (cyanobacteria)
AUTHOR(S): Stocker, Achim; Ruettimann, August; Woggon, Wolf
Dietrich

CORPORATE SOURCE: Org.-Chem. Inst., Univ. Zurich, Zurich, CH-8057,
Switz.

SOURCE: Helvetica Chimica Acta (1993), 76(4), 1729-38
CODEN: HCACAV; ISSN: 0018-019X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Incubation of spheroplasts of *A. variabilis* with the 2,3-dimethyl-5-phytylhydroquinone (I)-2,6-O-dimethyl-.beta.-cyclodextrin complex revealed the presence of a hitherto unknown enzyme (**tocopherol cyclase**) which catalyzes the cyclization of I to give enantiomerically pure .gamma.-tocopherol in .gtoreq.93% yield.

=>